RISC PC

Data Sheet 7
DMA Extended Bus Interface

April 1994

The Acorn Risc PC can take two single-width expansion cards in its standard configuration, plus two more for every centre-section added to the system.

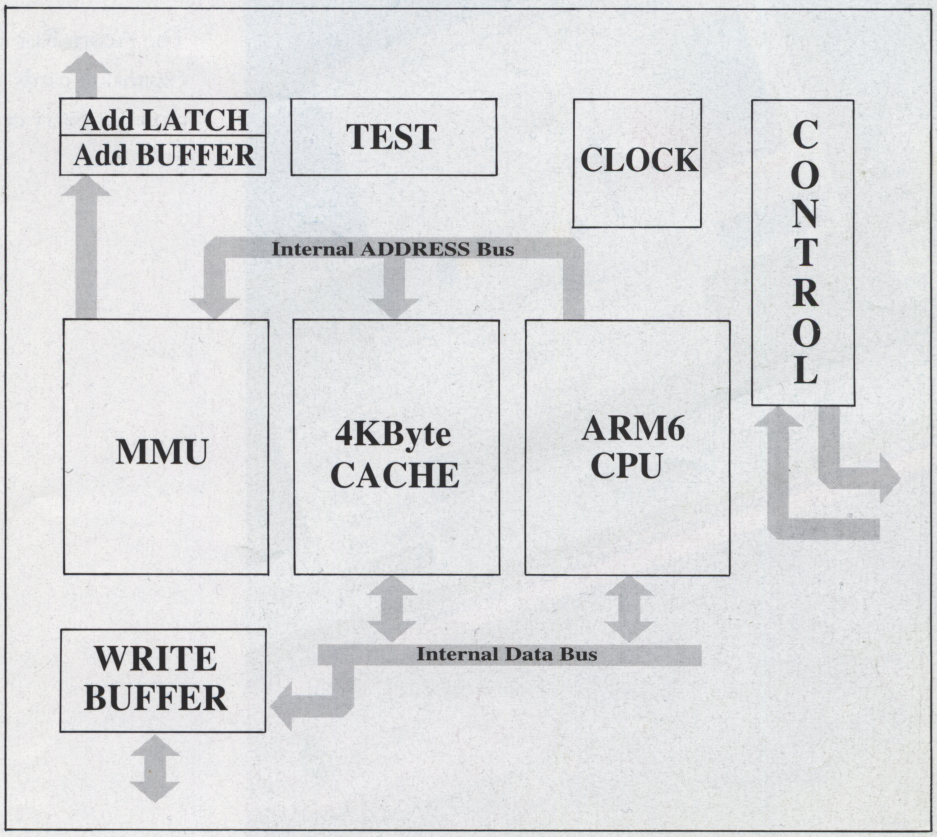
Acorn

The performance of the expansion card interface has been dramatically improved by increasing the data bus width from 16 bits on the A5000 and A540 to 32 bits on the Risc PC. Furthermore, the processor address space has been expanded from 4K to 16MB, plus the original 4K. This 16MB address space is known as DEBI (DMA Extended Bus Interface) space. DEBI space means that data held on an expansion card in ROM or RAM can now be read or written to directly, without the previous limitation of 4K page chunks. This greatly speeds up the transfer of data backwards and forwards between an expansion card and the main memory.

The DEBI bus on the Risc PC, as its name implies, also supports Direct Memory Access (DMA), so that data can be read from and written to system RAM by expansion cards, without interrupting the CPU.

The new DEBI bus makes it possible to implement even higher performance expansion cards handling large amounts of data, such as video capture and direct-drive printer cards, which can have substantial on-card buffer memory, which is now addressable directly by the ARM processor.

Existing expansion cards which conform to Acorn specifications will continue to be supported, although double-width cards will no longer fit in the case.



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